

(No Model.)

2 Sheets—Sheet 1.

E. F. WHITE.

EDGE PLANE FOR BOOTS AND SHOES.

No. 304,055.

Patented Aug. 26, 1884.

Fig. 1.

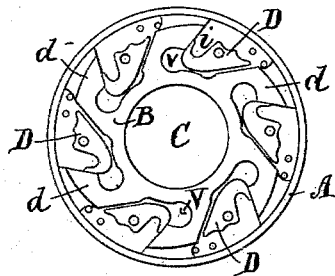


Fig. 2.

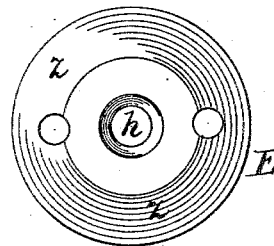


Fig. 3.

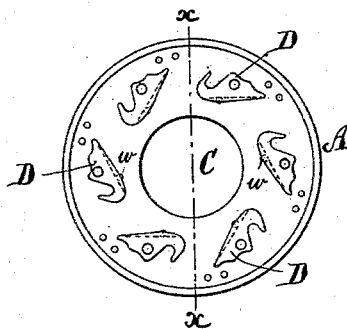


Fig. 4.

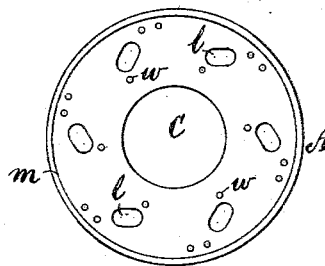


Fig. 5.

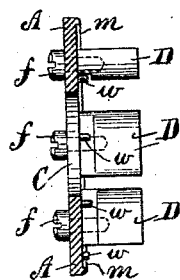
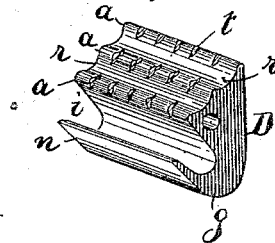


Fig. 6.



Witnesses.

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Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

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EDGE-PLANE FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 304,055, dated August 26, 1884.

Application filed June 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD F. WHITE, of Weymouth, in the county of Norfolk, State of Massachusetts, have invented a certain new and useful Improvement in Edge-Planes for Boots and Shoes, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of the cutter-head, with the face-plate or cap E shown in Fig. 2 removed; Fig. 3, a side elevation of the disk, with the gages attached; Fig. 4, a side elevation of the disk; Fig. 5, a vertical transverse section taken on line *x x* in Fig. 3; Fig. 6, an enlarged isometrical perspective view of one of the gages detached; and Fig. 7, a longitudinal section of the sleeve and cutter.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of edge-planes which are provided with rotary cutter-heads, having a series of peripheral cutters conforming obversely with the edge of the sole or work on which they are employed; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a more desirable and effective article of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the body or disk of the cutter-head, and B the sleeve. The disk is countersunk or chambered on its outer face or side to form the annular rabbet or guard *m*, and provided at its center with the hole C for receiving the arbor or mandrel on which it is mounted.

Secured at uniform distances apart on the disk A, and rendered adjustable by screws *f* passing through the slots *l*, there are a series of gages, D, the gages being shown in end elevation in Figs. 1 and 3, side elevation in Fig. 5, and perspective in Fig. 6.

The sleeve B is provided around its periphery with a series of radial cutters, *d*, disposed at uniform distances apart, and having cutting-edges conforming obversely with the shape it is desired to give the edge of the sole. The sleeve B is provided with a central hole for the mandrel, corresponding with the hole C, and is arranged in such a position on the disk A that each of its cutters *d* will come between two of the gages D.

A face-plate or cap, E, provided with a central hole, *h*, is employed for locking the parts together.

The cap, which is beveled on its outer face, at *z*, and flat on its inner face, is slightly smaller in diameter than the disk A, but sufficiently large to project on all sides beyond the outer ends of the cutters *d*, thereby forming an annular flange which is inserted between the upper and sole when the plane is in use, and acts to keep the work in proper position in the usual manner.

The gages are preferably composed of brass or similar material, and are formed as best seen in Fig. 6, being respectively provided with a throat, *i*, for receiving the shavings or chips, and longitudinally corrugated or grooved at their outer ends, as seen at *r*. The ridges *a*, between and at the sides of the grooves *r*, are transversely slotted or grooved, as shown at *t*, the grooves *t r* serving to abrade or break up the surface of the leather in advance of the cutters, and thereby render the action of the cutters more effective.

A chamber, *v*, is formed beneath each of the cutters *d* to enable the cutters to be properly ground, and into which the lower ends, *g*, of the gages D project slightly when in proper position for use.

Projecting laterally from the disk A, at the side of each of the gages D, there is a pin, *w*, which acts as a stop to prevent the lower end of the gage from falling inwardly too far, and also to assist in keeping it in proper position on its attaching-screw when the screw is turned in.

In the use of my improvement the gages are adjusted on the disk A and firmly secured by the screws *f*. The disk is then placed on the arbor or mandrel (not shown) with its gages outward, and the sleeve B slipped onto the

arbor and so adjusted that the forward ends of its cutters *d* will rest against the upwardly-projecting flanges *n* of the gages, as seen in Fig. 1, after which the cap *E* is placed over the outer ends of the sleeve and gages, and a screw-bolt passed through the hole *h* into the end of the arbor, thereby locking all of the parts firmly together in a manner which will be readily obvious without a more explicit description.

By constructing the gage with the outwardly-turned flange *n* the chips or shavings are prevented from passing into the chamber *v* and choking up or clogging the plane, being caught in the curved chamber *i* and readily discharged. The gages are of such size as to nearly or quite fill the entire space between the cutters, except the chamber *i*, and are designed to be so adjusted that their outer ends will be about on a line with the cutters.

I am aware that edge-planes having rotary cutter-heads provided with gages disposed between the cutters are not new, and I do not claim the same, broadly; but,

Having thus explained my improvement, what I claim is—

1. In an edge-plane substantially such as described, the following instrumentalities, to wit: a series of radially-arranged cutters and a series of adjustable gages disposed between the cutters, said gages being adapted to abrade or break up the surface of the leather in advance of the cutters, substantially as described.

2. In an edge-plane substantially such as described, the gages *D*, rendered adjustable on the disk *A* by the screws *f*, in combination with the sleeve *B*, provided with the cutters *d*, substantially as described.

3. The improved cutter-head for edge-planes herein described, the same consisting of the disk *A*, provided with the hole *C*, slots *l*, and guard *m*, the sleeve *B*, provided with the cutters *d*, and a hole for receiving the arbor, the gages *D*, provided with the grooves *t r*, chamber *i*, and flange *n*, the cap *E*, and screws *f*, constructed, combined, and arranged to operate substantially as set forth.

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Witnesses:

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